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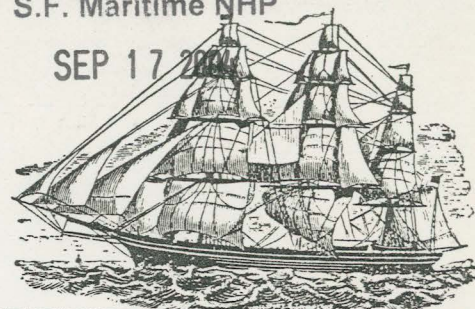
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SEA LETTER

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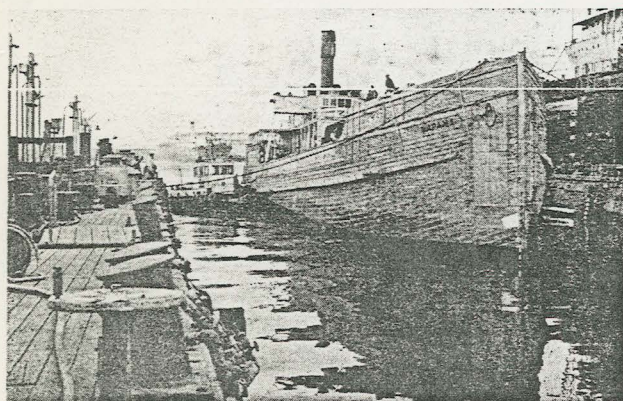
Foot of Polk Street, San Francisco . . . No. 1, Spring, 1960



SUPERVISION BY MUSEUM OF C. A. THAYER and WAPAMA RESTORATION



AFTER a bit over a year in the doldrums with minimum maintenance and with no restoration program organized, life has brightened again for the three masted schooner C. A. THAYER. Under the terms of our Advisory Contract with the State of California for this vessel and for the steam schooner WAPAMA we are employed to guide these coastal craft from the degeneration of old age into a new status as museum ships. They will be important displays among California's historical monuments.



The steam schooner WAPAMA goes back into the water at Moore Drydock Co. after bottom repairs and painting.

The THAYER arrived in San Francisco Bay in October of 1957, the WAPAMA was towed down from Seattle a year later. The State contracted with the Museum for a two-year period starting in July of 1958.

A program for the ships was worked out by Curator Roger Olmsted, and put in gear when the Museum Association relinquished one of its best men, Harry Dring, Ship Manager on the BALCLUTHA since her inaugural at Pier 43 in 1955. Harry has become Historic Ship Restoration Supervisor for the Division of Beaches and Parks.

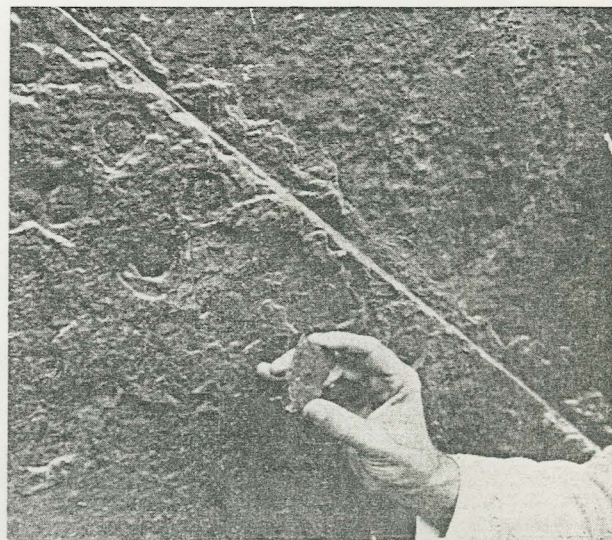
The Museum went to great lengths to locate an experienced shipwright foreman for this project. The massive frames, deck beams, and knees

in wooden ships require the skills of a diminishing breed of craftsmen. Ivan Duncan, the Shipwright Foreman finally located and employed, began his shipbuilding career in Dan Hanlon's yard on Oakland Creek. In 1918 he was at work on the barkentine CONQUEROR in the very shipyard on Humboldt Bay where C. A. THAYER was built 23 years before. With Ivan are five more shipwrights of his selection out of Local 1149. The chips are flying from adze and broadaxe!



RUST . . .

During her early years our full rigged ship had an average crew of twenty-six men aboard during deep-water voyages and she had maintenance, we assume, to suit. Her first captain superintended BALCLUTHA's building, and his wife christened the ship; we can imagine Captain Constable, a London man, keeping his crew "looking alive" in the ship's behalf. The same with the one Scots captain and the three Nova Scotiamen who followed him in the '80's and '90's. These men would be careful of a ship's health.



Rust scale started to thicken after the Alaska Packers Association ceased to tend her.

In our own struggle to keep the BALCLUTHA clean and presentable and to hold our own against corrosion aloft and aloft, we often envy the hands that the mate had available for ship's work in those former days. Even though most of the men forward skinned out as a usual thing when a hungry Limejuicer like BALCLUTHA reached port, the apprentices were left—from three to five sea-hardened lads, a petty officer or two (carpenter, bosun or sailmaker), and the mates, none of whom was reluctant to get tarry prosecuting ship's work. Moreover, the crimps and boarding house runners seldom lured the *whole* crew out of her, so there would usually be several sailors working with chipping hammer and paint brush.

Maintenance by Sailors

They turned to, this ghostly crew, inboard in port and outboard at sea, on the same simple problem we face today, corrosion!

*"Then it's chip, chip
With the hammer in your grip
From the anchor at the cathead
to beneath the counter's dip
And the rust gets in your windpipe
Fit to aggravate a saint,
Oh! it's bully work for sailors
When you're set to chippin' paint."

Her crews chipped at BALCLUTHA off Lobos de Tierra while the guano was coming aboard, and off Sausalito, empty, while waiting for grain—a good time to get a crack at the hold. They chipped her in the Irrawaddy and in the River Plate. The plates of her hull—mild steel, one half inch thick average—thinned a little. The steel wire in her rigging rusted a little. The chain sheets and hal-



When, in 1955, the thickest areas of scale were cleaned by sand-blasting, it was found that underneath the scale active corrosion had drilled in like cancer. In time this pitted plating will be renewed.

*The purpose of the chipping hammer is to knock away rust scale and fragmented paint so that the new paint (usually red lead undercoat) gets a good grip on bare metal.

liard ties corroded. The masts, particularly on the forepart where the salt spray flew aboard, kept rusting, always a little more. But always the corrosion was *under control*—mainly because of the detailed attention that it could be given by the mates, the apprentices and the hands who chose to stay by her in port rather than clear out for the pleasures of Sailortown. And these were usually the best and steadiest men.

At the turn of the century occurred an entr'acte of a few years between the ship's deepwater days and her career, twice as long, as a salmon packet. She ventured to Australia with lumber for a few voyages and again there was a Bluenose skipper in charge, the redoubtable, bearded G. A. Hatfield. Captain Hatfield had his fame for re-rigging the French mail steamer PEREIRE into the four masted sailing ship LANCING—an ocean greyhound. It is not likely that he neglected the BALCLUTHA, nor would his successor, Captain Bremer (described as a red-headed German) who was given our ship as a first comand, in 1902. He was the selection of another celebrated shipmaster, Captain George Wester, commodore captain for J. J. Moore.



The bottom of BALCLUTHA was found to be in remarkably good condition when the ship was drydocked by Bethlehem shipyard in 1954. Areas subsequently tested by audio gauge showed that the bottom plates had thinned only 5% near the keel and 15% at the turn of the bilge.

Shore Gangs Maintain Ship

Captain Bremer had the misfortune to put her ashore two years later, bad luck that cost the ship a year of maintenance, but brought her, thoroughly repaired, under the houseflag of the Alaska Packers Association. To be nominated to this pantheon at the foot of Paru Street was the best of all possible fates for a steel square rigger then twenty years old. Here at Alameda was a shipyard where the ship lived in the wintertime under excellent care. The Alaska Packers were perfunctory about looks, at least in the eyes of a

deepwaterman; the brass and teak fittings were painted all the same color, and the decks were no longer holystoned. But winter-time a gang of chippers and painters worked in the bilges, riggers tended her aloft, and paint stages moved from ship to ship of the fleet.

The vital parts had knowledgeable and expensive care, and it kept our STAR OF ALASKA, as she was then known, seaworthy for another quarter of a century. It was not the maintenance-by-crew of her early years, but rather maintenance by shore gangs, yet it kept her going to the last—in fact, she was the last, a lone square rigger towing to Alaska in 1930 to close out an era of sail to the North.

Rust Gets A Foothold . . .

The heritage of deterioration that concerns us today began after that. The showman who bought her in 1933 saved the ship from extinction in the shipbreaker's yard, so in a way it is a niggling criticism* to complain that he did not maintain her. He was not a seafaring man.

But these downhill years—while the ship (now named PACIFIC QUEEN) earned a bumpy living with a pirate dummy at the yardarm—are a fact nevertheless. And they stretch out into almost another quarter century during which neither a regular crew, nor shore gangs tended the vessel. Corrosion got a good foothold for the first time. The scale thickened on her topsides—there was no "chip, chip, beneath the counter's dip".

Behind the scale active corrosion drilled in like cancer. When we bought the ship and knocked the scale away in 1954-1955 the hull was deeply pitted. We found the steel plates actually holed at the bottom of some of these pits. This was in the topside area, most of it at the level of the 'tween decks.

The underwater portion of the ship, when we put her on drydock in 1955 (the first time in 25 years) showed a more uniform scale formation—large thin sheets of rust that could for the most part be knocked away with longhandled scrapers.

First Drydocking in Twenty-five Years

The cure began. The bottom of BALCLUTHA was sandwashed and painted. The area between

*The opposite, or too perfectionist, attitude was shown by the skipper of a New Zealand scow ketch, caught at sea in a gale of wind and his vessel starting to founder. He had just bought and installed a brand new donkey boiler with steam pump connected, but he was out of fresh water and did not want to spoil his new boiler with salt. So he let the ketch sink.

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wind and water was sandblasted and painted. The topsides were sandblasted and painted from floats after the ship went back into the water. Where the hull was actually holed from corrosion at the waterline or below it, new plates were welded on outside—full and partial plates to the number of about a dozen. These were 1/4 inch thick. Where pitting had penetrated right through the topside plating, small patches, about a foot square, were welded on the inside of the hull. These numbered a couple of score.

Nothing was done to the interior of the hull—that was saved for the accumulation of more funds and the next drydocking. The bottom of the ship, inside, is out of sight beneath a thousand tons of sand ballast. Amidships this is piled up to the turn of the bilge. A couple of years back we dug "wells" down through this sand and through the half-rotten planking (the ceiling, equivalent to the tank top of a double bottom ship) under it. Bethlehem shipyard loaned a team to audio-gauge the thickness of the steel bottom plates.

Here was good news! The Alaska Packers shore gangs had coated the bottom with an average 3" of concrete. Chipped away this revealed bright metal. And the audio gauge revealed that in the areas tested the bottom plates had thinned only 5% near the keel and 15% at the turn of the bilge.

The condition of the floors (the widening of the ship's frames or "ribs" into scores of broad steel plates set on edge across the keel) was less satisfactory in the few areas where they could be inspected. The floors were not coated with concrete against the gentle, persistent slop of the salt bilge water. One of the six sighted had a 3" hole

rusted right through. The purpose of the floors is to stiffen the structure of the vessel at the point where cargo weight thrusts downward and buoyancy forces thrust up. We are not carrying cargoes and the ship will never again be loaded "down to her marks" with resultant heavy strain on her structure. But the floors still stiffen the ship, carry the ballast, and want attention and preservation.

Modern Methods to the Rescue

The program we want to carry out this spring is aimed first at the ills inside the ship. We will have more than \$40,000 saved towards their elimination by that time, and it is the intention of the Board of Trustees to borrow a further sum, depending upon shipyard estimates.

We have assembled the best offered by modern chemistry to bring rust to a halt. The Dow Chemical Company has offered magnesium anodes to provide cathodic protection. The Eureka Chemical Company of San Francisco has offered to coat the interior of the hull with Eureka Fluid Film at less than their cost. This is a sustained action anti-corrosive widely used in salt water ballast tanks.

When the steel shell has been ministered to, the great heaped sandpile will not be returned to the ship's interior. It has absorbed moisture, encouraged corrosion, rotted the ceiling, clogged the bilges, and prevented inspection. Instead, new dunnage will be laid, to replace the ceiling, and somewhere between 800 and 1,000 tons of concrete blocks will replace the sand ballast.

These concrete blocks will be dry and they will be arranged in a belt down either side of the ship that will permit inspection and maintenance of what would nowadays be called the "double bottom" area under them. Bill Hincks, of Moore Drydock Co. has cast a naval architect's eye on ballast stowage in BALCLUTHA and come up with the excellent suggestion that the headroom in this "double bottom" be increased through the use of bearers on top of the floors. This will assist future maintenance in this crucial area.

In Time, Either Wreck or Replica

After a look at historic ship preservation projects in this country and abroad—CHARLES W. MORGAN, CONSTITUTION, CUTTY SARK, VICTORY, VIKING, POMMERN — Alan Villiers offered this opinion: "Any old ship, if she is kept long enough, inevitably becomes either a wreck or a replica. The original timbers will



The interior of the hold will be sandblasted and coated with preservatives when BALCLUTHA goes into a shipyard in 1960.

eventually be replaced, piece-meal or holus-bolus, and if the ship survives long enough, there will be precious little of the original left about her except the shape."

We realized this after a recent inspection of the GJOA in Golden Gate Park. Her keel and floor timbers and a few deck fixtures are all that are original. By the late 1930's she had deteriorated into a wreck; she was then rebuilt into a replica. But her shape and presence survive—and they are adequately doing their job of commemoration.

OLD IRONSIDES is about 15% original, but she, too, is performing her inspirational task well.

BALCLUTHA is about 95% original. Like any other ship she is in actuality composed of many small parts. In time we can replace the worst of those pitted topside plates. This will just improve her complexion, not change her personality. In the meantime we will have the most advanced of modern steel preservatives coating the rest of the hull. With a few good men looking constantly after her maintenance, BALCLUTHA should stay 90% original for decades, then 80% original for decades more, and so on.

BEATING OUT OF THE BRISTOL CHANNEL in the Winter of '94

*A Reminiscence by Capt. Alfred H. Durkee
of his first voyage in command of BALCLUTHA*



After spending about six years as master of wooden sailing ships, I determined on a change. I, therefore, resigned my command in Philadelphia and sailed for Scotland. Very soon after arriving there, I was appointed to command a large steel ship, the "Balclutha", whose owner was a Scotchman, a very fine man, and of whom I asked very particularly about orders when to leave port in case of bad weather, as it was then winter. He said I was to use my own judgment, as I had previously done; if the weather did not look good to me, stop in port until I thought it prudent to go out. The ship was loaded with coal and lying in Barry, a port near Cardiff, Wales, and up the Bristol channel, one of the worst places to get out of in winter.

I waited a day or two for the weather to clear, and then one fine morning we started, my wife being with me. We had a large tug boat ahead towing us out, but before we got outside the channel the wind began blowing up, and very soon we had a heavy gale and high sea, so the tug could scarcely make any headway. However, they kept on towing until after a time the hawser broke, and we were adrift. The wind and sea were too high to get another line out, so there was nothing to do but get some sail on the ship and turn back, the tug showing us the way to anchorage, as I was not familiar with the harbor.

We reached anchorage in safety, and anchored with a heavy sea rolling in, making it extremely dangerous to bring the ship up. The tides in the Bristol channel turn swiftly, and rise to a height of some twenty feet. We lay there several days, seeing ships start out and come back again, and anchor all around us.

Coal Cargo Shifts

One morning it looked so fine we weighed anchor, but I was sorry before we got far, as it again commenced to blow up. However, the tug got us out and cast off the hawser and although it was blowing hard we got sail on the ship as fast as possible. But the wind kept hauling more and more westerly, and the gale increased so that it soon became apparent that we were in for more

bad weather. We stood over for the northern shore on a port tack, thinking if we could get well to the northward the wind might favor us and allow the ship to make a good leg out to sea. When we got far enough it became a question of getting the ship around on the starboard tack. We had the men aloft making fast some of the sails, as it was by now blowing a heavy gale. The ship was rolling badly and shipping great quantities of water, washing overboard everything movable around us, including our chickens and two pigs. While the men were still aloft the sea suddenly gathered and a huge roller struck the ship, and with a great roll she went over on her side, shifting the coal, and there she lay with her lee deck full of water.

The men up aloft had great difficulty in holding on and getting the sails fast, but eventually we got them down and began trying to get the ship around. But, as we were lying over so far the men could not stand on deck without holding on to something, so ropes were stretched across the ship and made fast. They are called life lines, and that they certainly are, for they have saved many a man from being washed overboard. In our case, we very nearly lost two of the men, which rather took the heart out of all of us. However, after much difficulty and danger we got the ship around and began running back for anchorage.

By this time the weather was rather thick and it was very fortunate that my mate was familiar with the channel, otherwise we might have run on one of the sandbanks. We reached the harbor and anchored 80 fathoms (or 480 feet) on one chain, 110 fathoms (or 660 feet) on the other. We then had a job ahead of us to get the sails repaired, the cargo shifted over, and the ship straightened up. We got help from shore and after three days of hard work we were ready to try the sea again.

"Two Fine Fat Pigs Gone Clean Away, Squealing"

The steward we had that time was a peculiar sort of a fellow. He would go into the cabin and tell my wife what was going on up on deck—how the men were working in the water up to their waists trying to get the yards around—the seas completely covering them at times—the boatswain

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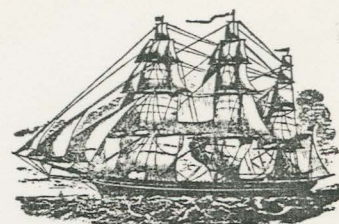
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SEA LETTER



KARL KORTUM, *Editor*

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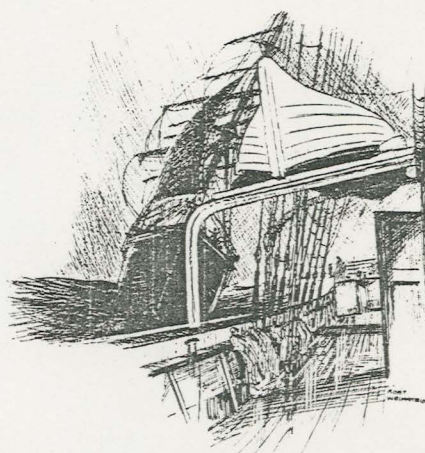
washed overboard and with the same wave washed back again—all the chickens and pigeons washed away—"and those two fine big fat pigs gone clean away squealing, God bless them."

We used to carry pigeons to sea, not only for food, but because they were great company flying over the ship, and, of course, got quite tame. If my wife were making the voyage with me, she would nearly always bring food with her when she came on deck, and it did not take long for the pigeons to know it. They would fly down all around her, a beautiful sight. Sometimes we would lose one or two if a sudden squall came on so strong that they could not fly back to the ship. In one case there were two carrier pigeons among the lot I bought, and the first time I let them out they commenced flying up in the air, and ascended, flying in small circles, until they were nearly out of sight, and then started back in the direction of England. But how they knew where to go was a mystery, for we were many miles from land.

Collision With Nova Scotia Ship Polynesian

One fine morning, after the "Balclutha" was repaired, many of the ships went out, but I did not go as it did not look very good to me. Sure enough, before they got outside the wind came in again and began blowing up and we soon had a sea, and some of the ships coming back. One of them, a wooden ship, came near and anchored, and although we felt sure she was too near us we could do nothing with the gale that was blowing. We on and think it is blowing hard when a gale is 50 or 60 miles an hour, but in this case it was blowing in some of the squalls a hundred miles an hour as recorded by instruments on land. We saw several ships dragging their anchors and one of two

of them broke away and were towed into a place of safety. When the tide turned, the wooden ship next to us broke her shear and one of her anchor chains and came over alongside of us, and there we were, a steel ship and a wooden one, side by side, lying in the trough of the seas, both ships rolling heavily, their yards catching into each other's, breaking away some of the sails which began banging in the wind, having carried with them some of the yards and masts. At times, one ship would be on top of a wave and the other



At the height of the gale the POLYNESIA began to drag down on the anchored BALCLUTHA.

in the hollow, and then they would come together with a crash, and a tearing, rasping, crushing noise, which with the ropes and yards breaking, sails torn and banging, officers and men shouting, and above it all the howling of the wind through the two ship's rigging. It was a scene and a sound one could never forget as long as he lived.

Continued in next issue of Sea Letter